

Notice of Proclamation
NOTICE is hereby Given

TO ALL

DEALERS

IN

BRANDY, RUM, MALT, or ME-
LASSES-SPIRITS, ARRACK, &c.

THAT THE

HYDROMETER,

OR

BRANDY-PROVER,

Richd Clarke
Son of late Inventor M^r John Clarke
Being the Production of many Years
Study and Experiments, is now
brought to its utmost PERFECTION.

L O N D O N:

Printed and published according to Act of Par-
liament, and entered in the Hall-Book of the
Company of Stationers.

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ADVERTISEMENT.



WITH this INSTRUMENT any Person, tho' no Judge of the above-mentioned Liquors, may, without tasting the same, (or shaking in a Proof-Vial, as usual) in an Instant discover, whether Brandy, Rum, Malt, or Melasses-Spirits, are Proof, or otherwise; and to such Exactness, that, if one Hundred, or more Quart Bottles, of the above-mentioned Liquors, of equal Strength, were set together, and any Person should privately take out of one or more of the aforesaid Bottles, one common Spoonful of the Liquor contain'd therein, and put into each of the Bottles so diminish'd, the same Spoonful of Water, it will instantly discover which of the Bottles have been so mixed, altho' so small an Alteration had been made therein.

Advertisement.

This INSTRUMENT will be very useful for Merchants, Commanders, &c. in buying BRANDY or RUM in Foreign Parts; and of great Service to the Planters, &c. in the *West-Indies*, it plainly shewing how to make up their Liquors design'd to be sent to *Europe*, of such Strength, that when imported here, they may be a full Merchantable Proof; (and not liable to pay an over Charge) it having many Times been brought over so much under Proof, as to be scarce worth the Freight and Duty, to the great Loss of the Owners thereof. And will be useful to Gentlemen, &c. who buy either Brandy or Rum, for making Punch; and to those who Retail the same; and to all Rectifying Distillers, Chymists, Apothecaries, &c. who buy Malt, or Melasses-Spirits, either for rectifying, or making Cordials, &c. it plainly shewing whether the Spirits they buy for those Uses, are of the true Weight, or Proof, they ought to be of, or otherwise.

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And

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And as all Physicians, &c. agree, that the lightest Water, is best, or most wholesome, for Drinking, Brewing, dressing Food, &c. this INSTRUMENT will be of singular Use in discovering to the greatest Exactness the different Specifick Gravity, or Weight, of all Water proper for the Uses above-mentioned.

The Price of this INSTRUMENT, with the APPARATUS belonging thereunto, is Half a Guinea.

And as several Gentlemen, Distillers, Chymists, Apothecaries, Retailers, &c. have desired to have these INSTRUMENTS made, to shew all the different Degrees or Strength of the above-mentioned Liquors from Common Water, to Rectified Spirits of Wine; in order to perform which, he has compleated an additional APPARATUS of Twenty-three Brass Weights, which being added to the aforesaid IN-

Advertisement.

STRUMENT, any Person having either Brandy, Rum, Malt, or Melasses-Spirits, ever so much above Proof; may, with great Exactness, discover what Quantity of Liquor it will admit of *per* Gallon, to reduce it to Proof; or, if the aforesaid Liquors are under Proof will exactly discover, (notwithstanding any Art made Use of to conceal the same) what Quantity of Water has been mixed therewith in lowering it.

The Price of this INSTRUMENT, with the whole APPARATUS, abovementioned, is ONE GUINEA.

ARRACK, of all Spirituous Liquors, is the most deceitful to the Eye, by Reason the Strength thereof cannot be discovered by the Bead, or Bubble, in the Proof-Vial, by which many Persons are deceived in buying the same, he therefore invented an Additional APPARATUS for Arrack only, which, if desired, may be added to either

Advertisement.

ther of the INSTRUMENTS above-mentioned, by which, any Person, altho' no Judge of the Liquor aforesaid, may (without tasting the same, or shaking it in a Vial,) easily discover the Strength thereof, to great Exactness: This will be of great Use to those that deal therein, and to Gentlemen, &c. who buy that Liquor for making *Punch*; and will be of great Service to Commanders, &c. in buying that Liquor in *INDIA*; it plainly shewing them the Strength it ought to be of when bought there; that, when brought to *EUROPE*, it may not be so small as to be scarce worth the Importing.

The Charge of this APPARATUS for ARRACK being added to either of the INSTRUMENTS above-mentioned, is *Four Shillings*.

This INSTRUMENT has been shewn before the *Royal Society* and approved of by them, as will appear in their Transactions No. 413, Page 227.
and

Advertisement.

and is made Use of by the Honourable Commissioners of his Majesty's Victualling - Office, in Ascertaining the Strength or Proof of those Large Quantities of BRANDY they purchase for the Use of the Royal Navy. It has likewise been tried and approved of by the General Surveyors, and Others the Principal Officers in the Distillery; and many of the most eminent Dealers in the Liquors abovementioned, whose Approbation thereof doth appear by the great Encouragement the Inventor has met with by their Recommendation.

He hath likewise Invented a New and Curious INSTRUMENT which will be of great Use

In BREWING,
And DISCOVERING the
Goodness or Quality of
M A L T.

This

Advertisement.

This INSTRUMENT shews to great Exactness all the different Degrees of Heat from cold Water to Boiling, and by which they may always be certain in taking their Liquors to the exact Degree of Heat requir'd, according to the various Sorts of MALT they at different Times make Use of.

This INSTRUMENT likewise shews the different Degrees of Strength of all WORTS either in the Under-Back, or when Boiling, from the smallest to the strongest that can be produced; and when Boiling, exactly discovers the *Continual Increase of Strength gain'd thereby*, as will plainly appear in the *printed Book of Directions* given therewith: In which Book is likewise an Account, of some *New and Curious Experiments perform'd by this INSTRUMENT for discovering the different Goodness or Quality of the several Sorts of MALT* that can be produced.

The

Advertisement.

The Price of this INSTRUMENT
is *One Guinea.*

The abovementioned INSTRUMENTS being made of *Copper* and *Brass* are no ways liable to be out of Order, or want the least Repair, and being kept in a *Tin-Case*, which likewise serves to try the Liquor in, may be carried in the Pocket as conveniently as a common Tobacco-Box, the Whole Weight both of INSTRUMENT and APPARATUS seldom exceeding Four Ounces; and may be sent with Safety, to any distant Part.

The Real and Only INVENTOR thereof,
Mr. JOHN CLARKE,

In order to prevent Gentlemen, &c.
(who may be desirous of Purchasing the
abovemention'd INSTRUMENTS)
from being imposed on by any Persons,
who may attempt to Counterfeit the same,
or expose any such Counterfeit IN-
STRU-

Advertisement.

STRUMENTS to Sale; the *Inventor* Mr. JOHN CLARKE, Petitioned his Most Gracious Majesty, to grant him his Royal Letters Patent, for the sole Making and Vending the same: He being deceased, they are only made and sold by his Son *Richard Clarke*; and for the Satisfaction of those Gentlemen, &c. that may have Occasion to Purchase the aforesaid INSTRUMENTS, from being deceived, is determined to dispose of them at present, only where he now Lives, at Mr. *Nathaniel Clarke's*, fronting the Passage in the Middle of *Lemmon-Street, Goodman's-Fields*; and will shew by Experiments to such Gentlemen, &c. who have already bought, or that may buy the abovesaid INSTRUMENTS, the Truth and Certainty in the Performance thereof.

N. B. The lower Brass Spindle of each of these INSTRUMENTS is made Triangular; on one Side of which is Engraved the Maker's Name CLARKE; on the next Side is Engraved LONDON; and

Advertisement.

and on the other Side his Mark, *The Half Moon and Dagger*, with the Number of INSTRUMENTS he has already made. And a Printed Book, with plain and full Directions for using the INSTRUMENTS above-mentioned; and *Copper Plates* describing the *Spindles* and *Index*, and all the APPARATUS belonging thereunto; which said Book is Entered in the Hall-Book of the Company of Stationers, and published according to Act of Parliament, and Signed with his own Hand in the Front thereof, is given Gratis with each INSTRUMENT.

If any such INSTRUMENTS or BOOKS should be offered to Sale, that has not the Marks and Descriptions above-mentioned, they are

COUNTERFEITS.

THE

T H E

P R E F A C E.

U P W A R D S of Twenty Years past, he was applyed to by Mr. *Balchin*, deceased; one of the General Surveyors in the Distillery, and several other the Principal Officers thereof, to contrive, if possible, an INSTRUMENT to ascertain the true Strength or PROOF of BRANDY, RUM, MALT, or MELASSES-SPIRITS, without tasting the same, or trusting to the Uncertainty or Fallacy of the PROOF-VIAL, the only Method then made Use of by the Whole Trade to discover whether any of the above-mentioned Liquors were PROOF or otherwise.

After many Fruitless Experiments with INSTRUMENTS made of *Ivory*, he laid it aside as wholly impracticable, by Reason the *Ivory* being *Porous*, would dilate or contract itself, by Moisture or
B Heat,

Heat, so as to make the INSTRUMENT vary very much in the Floating thereof, altho' the Liquor should be always the same.

At length he contrived to make one in COPPER, and BRASS, which he brought to such Perfection, as not only to shew the true PROOF, of all the aforementioned Liquors, (free from the Variations that the *Ivory* ones are liable unto) but likewise with great Exactness, to shew the different Degrees of Strength, either over or under PROOF, from the strongest to the smallest that can be produced, and shewed many Experiments therewith, at the late Dr. *Desaguliers*, F. R. S. in several of his Publick and Private LECTURES, in *Channel-Row, Westminster*; and tried many Experiments at Times for upwards of two Years, before several Principal Officers of the *Excise*, *Distillers*, &c. Finding he had brought it to so great Perfection, he then shewed it before the Royal SOCIETY, and tried several Experiments therewith, which was
approved

PREFACE.

iii

approved of by them, as may be seen in the Transactions, No. 413, Page 227. But would not (although often persuaded thereunto) expose them to Sale, hoping to make some farther Improvements therein, which he has since done, by an additional APPARATUS, which being added thereunto, shews the true Strength of all Sorts of A R R A C K, from the strongest to the smallest that can be produced; likewise the various Specifick GRAVITIES or WEIGHTS of all common WATERS, proper for Drinking, Brewing, Dressing of Food, &c. and believing those INSTRUMENTS, not capable of any farther Improvement, do now make them Publick, at the Price before-mentioned.



B 2

DIREC-



DIRECTIONS.



ALMOST fill the Tin-Case, with the Liquor you design to try, then screw upon the INSTRUMENT the Weight on which is engraved (PROOF) as in the Plate at the Front of the Book, then wipe the INSTRUMENT with a Ragg or Corner of your Handkerchief, dipped in the aforefaid Liquor, to cleanse it from the Grease, (or even the Sweat of your Hand, that it may have contracted when last used) which would if not cleansed from the same, cause some small Variation in the Buoyancy thereof, in wiping either the upper *Index* or *Spindle*, or the COPPER-BALL of the INSTRUMENT,

STRUMENT; you must observe to hold the INSTRUMENT by the under *Spindle*, on which is Engraved (CLARKE, LONDON,) &c. and always to wipe the *Spindle*, from the BALL upwards, by Reason that in wiping it downwards, it may bend or damage it, it being made so slender, in order to Discover the different Degrees of Strength of the Liquor you are trying to the greater Exactness.

When you have wiped the INSTRUMENT as before-mentioned, wet (either with your Finger or a Ragg) with the Liquor you are going to try, both the COPPER-BALL, and upper *Index* or *Spindle*; which will cause the Liquor the more readily to adhere thereunto.

Then sink or immerge the INSTRUMENT to the Bottom of the Tin-Case, wherein the Liquor is contained; then quitting the INSTRUMENT,

MENT, if the Liquor is a fair Merchantable PROOF, it will rise or float so high, as that the Crown Engraved on each Side the *Spindle* or *Index*, will appear near the Surface of the Liquors you are trying, but if the Liquor should be over PROOF, or very strong, it will not rise at all, or at least not rise so high, as the Crown before-mentioned; in which Case, if you are desirous to reduce the said Liquor to PROOF, you may mix Water therewith, until the *Index* or *Spindle* of the INSTRUMENT floats so high as the Crown on each Side thereof, then the said Liquor will be exact PROOF, according to the Standard of SEVEN POUNDS TWELVE OUNCES, *per* GALLON, always made use of by DISTILLERS, CHYMISTS, APOTHECARIES, &c.

But in Case when you take your Fingure off the INSTRUMENT, (when sunk or immersed in the Liquor as before-mentioned) it should immediately rise or float out of the Liquor, so
as

as not only the *Index* or *Spindle*, but even Part of the B A L L, should appear above the Surface of the Liquors so broad as a Silver Three-Pence or Groat, &c. then the said Liquor is considerably under PROOF, (although by the Bead or Bubble, it may shew a fair Merchantable PROOF) and more or less, according to the Diameter of that Part of the B A L L, that appears above the Surface of the Liquor you are trying.

Observe that when you mix Water with any strong Spirits, in Order to reduce it to PROOF, it will cause such a Heat or Ferment, so as to make the Liquor appear by the INSTRUMENT and (PROOF-VIAL) above the Strength it is really of, you must in that Case, if you desire immediately to try that Liquor, put as much thereof (as will fill the Tin-Case) into a Bottle or Vial well cork'd, then immerge the same in Pump-Water, until the Heat is abated, otherwise you must let it remain till next Day,
before

before you try the same, unless the Weather should be far Colder than Temperate; in that Case, if you set the Liquor in the open Air, three or four Hours, the Heat may be so abated as to be fit for Tryal.

It cannot be supposed but that both BRANDY and RUM, may lose somewhat of their Strength, by long keeping; in that Case, the INSTRUMENT, with the PROOF-WEIGHT screwed thereon, will float so High as that the *Index* or *Spindle*, will be a great Part, if not Wholly above the Surface of the Liquor, and sometimes a small Part of the BALL, as broad as a Pea, will appear; in which Case it may be deemed somewhat under PROOF, but not so much as to be rejected, either for Drinking, making Punch, &c.

In buying BRANDY, in *France*, *Spain*, &c. take Care to have it so Strong, that the whole INSTRUMENT, with the PROOF-WEIGHT screwed thereon,
may

may remain Sunk at the Bottom of the Tin-Case, when immersed therein, for if when bought there it should float so High as the Crown Engraved on the *Index*, it would be under PROOF, when brought to *ENGLAND*, it not only losing some of the Apparent but Real Strength in it's Passage over, and by the Difference of the Climate, &c.

It is well known that the Heat of the Climate in the *West-Indies*, will make all Spirituous Liquors, appear much Stronger than they really are, it having often happened that when Liquors have been Shipped in those Parts, to be sent to *England*, &c. has appeared there to be above PROOF; but when brought to *Europe* has been so much under PROOF, as to be worth little more than the *Freight* and *Duty*, to the great Disappointment, and Loss of the Owners thereof.

In Order therefore to make this INSTRUMENT as useful as possible
(as

(as well in the *West-Indies*, as in *Europe*) he has contrived an Additional Weight, on the Bottom of which is Engraved *three Crowns*, as in the Plate before-mentioned, which being screwed on the INSTRUMENT, and immersed in the RUM you desire to try, will in an Instant, discover whether it is of a sufficient Strength to be sent to *Europe*, or otherwise: For Example,

If the Weight on which the *three Crowns* are Engraved, should Sink the INSTRUMENT so low in the RUM you are trying, as the Crown Engraved on each Side the *Spindle* or *Index*, that Liquor is of sufficient Strength to be sent to *Europe*; but in Case it doth not Sink, but float so High as that Part of the COPPER-BALL, should appear above the Surface of the Liquor, it will scarce be a Merchantable PROOF, when brought to a *Market*.

It has been allowed by all Physicians, both Antient and Modern, that the
lightest

lightest Waters that can be procured are best or most wholesome for Drinking, Brewing, Dressing Food, &c. And as several of our most eminent Modern Physicians, have treated so largely on the Nature and Qualities thereof, it would be tedious in me to Enumerate thereon, therefore shall only make this Observation, that this INSTRUMENT will be of great use to those Gentlemen, &c. who drink Water, and to those who travel into Foreign Parts, in chusing the best Waters they can procure, and to Gentlemen, &c. who have several Springs, Pumps or Wells, near their Habitations, it instantly discovering which of them is the best or most wholesome for Drinking, Brewing, Dressing Food, Washing, or other Uses required; having several Times discovered a most surprising Variation, in the Goodness of Springs, that have not been One Hundred Yards distance from each other.

In

*In trying of WATER, observe
the following DIRECTIONS.*

AFTER having screw'd on the INSTRUMENT the Weight on which is Engraved Water, as in the Plate before-mentioned; then slightly smear or anoint the upper *Index* or *Spindle*, with Soap, soft Clay, Treacle, or any other glutinous Matter, that the WATER will adhere unto, which it will not do to polished Brass, but it must be done so slightly as not to add any Weight thereunto, then sink it in the Water you are desirous of trying, and if it floats near to the Crown Engraved on the *Spindle* or *Index*, or not more than the FIGURES, 1, 2, 3, or 4, below the Crown, that WATER may be deemed good and wholesome for Drinking, Brewing, Dressing Food, &c. But if it should float so High as the FIGURES 9, or 10, below the Crown, Engraved on the *Spindle* aforesaid, the SPECIFICK GRAVITY thereof, plainly discovers, that

that it has imbib'd some pernicious Qualities, which it has met with, in the different Stratas of Earth, it had pass'd through, which renders it unfit for the Uses before-mentioned; but if any Part of the COPPER-BALL should appear above the Surface of the WATER, that Water ought to be wholly rejected, as being very unfit for any of the Uses necessary to human Life.

This INSTRUMENT is not designed for trying the different SPECIFICK GRAVITIES, or WEIGHTS of Mineral WATERS, as SPAW, PYRMONT, &c. But only such as are proper for the Uses before-mentioned.

N. B. All WATERS, either from *Springs, Pumps, or Wells*, should be tryed, as foon as they are brought above the Surface of the Earth, by Reason that the Air, being Hotter or Colder than Temperate, would

cause some Variation in the Gravity thereof.

The Price of this INSTRUMENT with the APPARATUS belonging thereunto is Half a Guinea.

But if you would have this INSTRUMENT to discover all the various Degrees of Strength of BRANDY, RUM, MALT, or MELASSES-SPIRITS, either over or under PROOF, from the Strongest to the Smallest that can be produced; you must have the APPARATUS of Twenty-Three BRASS-WEIGHTS, by the help of which, you may in an Instant discover the true Strength, of any of the aforesaid Liquors, notwithstanding any Art made use of to conceal the same: In using of which, please to observe the following Directions. First Screw upon the INSTRUMENT, the Weight on which is Engraved (PROOF) and after you have cleansed the INSTRUMENT, as before directed, sink or immerge it in the Liquor you desire to try, and if that
Weight

Weight should not sink the INSTRUMENT, near to the *Crown*, Engraved on each Side of the *Spindle*, or any Part of the COPPER-BALL, should appear above the Surface of the Liquor, that Liquor is under PROOF; in which Case, you must take off that Weight, and Screw on in the Room thereof, a Weight Engraved

$\left(\begin{smallmatrix} \text{in} \\ 1 \\ \text{u} \end{smallmatrix} 20 \right)$ as in the Plate before-menti-

oned, and if that Weight should sink the INSTRUMENT near to the *Crown*, Engraved on the *Spindle*, or *Index*, it shews that Liquor is One in Twenty under PROOF, or a twentieth Part Water, but if that Weight should not sink it down to the *Crown* before-mentioned, then Screw on the Weight, on which is Engraved

$\left(\begin{smallmatrix} \text{in} \\ 1 \\ \text{u} \end{smallmatrix} 15 \right)$ which denotes it is one in

Fifteen under PROOF, or a Fifteenth Part Water, and if that Weight should not sink it down to the *Crown*, then

C 2

Screw

(13)

Screw on the several Weights on which are Engraved

$\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 10 \end{smallmatrix} \right)$ $\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 9 \end{smallmatrix} \right)$ $\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 8 \end{smallmatrix} \right)$

$\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 7 \end{smallmatrix} \right)$ $\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 6 \end{smallmatrix} \right)$ $\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 5 \end{smallmatrix} \right)$

$\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 4 \end{smallmatrix} \right)$ $\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 3 \end{smallmatrix} \right)$ $\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 2 \end{smallmatrix} \right)$

and that Weight that sinks the INSTRUMENT nearest the *Crown*, shews the true Strength of the Liquor you are trying, and what Water had been mixed there-with: As for Example, suppose the Weight

on which is Engraved $\left(\begin{smallmatrix} 1 \\ u \end{smallmatrix} \begin{smallmatrix} \text{in} \\ 7 \end{smallmatrix} \right)$ should

sink the INSTRUMENT the nearest to the *Crown*, then it shews that Liquor is one in Seven under PROOF, or a seventh Part Water, that is, one Gallon of Water, to six Gallons of Brandy, &c. And so of any of the other Weights; but in Case
you

you have immersed the INSTRUMENT in the Liquor, with the Weight screwed on, on which is Engraved PROOF, it should continue at the Bottom of the Vessel, or not float so high as the *Crown* Engraved on the *Spindle* aforesaid; the INSTRUMENT then discovers that the Liquor is over PROOF; in which Case, Screw on the INSTRUMENT the Weight on which is Engraved

(1^o to 20) which signifies over PROOF,

and if that Weight should sink the INSTRUMENT near to the *Crown*, Engraved on the *Spindle* before-mentioned, the INSTRUMENT shews that Liquor, to be one in Twenty over PROOF, or will admit of one Gallon of Water, to be mixed with every Twenty Gallons of Liquor, to lower it down to PROOF; but if it should sink with that Weight screwed on, then Screw on the Weight, on which is

C 3

Engraved

(15)

Engraved $\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 15 \right)$ which denotes one

in fifteen over PROOF, or will allow a Gallon of Water, to every fifteen Gallons of Liquor, to bring it down to PROOF; but in Case it should sink with that Weight screwed on, you must Screw on the several Weights Engraved

$\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 10 \right)$ $\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 9 \right)$ $\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 8 \right)$

$\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 7 \right)$ $\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 6 \right)$ $\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 5 \right)$

$\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 4 \right)$ $\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 3 \right)$ $\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 2 \right)$

until you have found the Weight that sinks it nearest to the *Crown*, Engraved on the *Spindle*, which Weight shews you how much the Liquor is over PROOF; as for Example, if the Weight on which is

Engraved $\left(\begin{smallmatrix} 1^0 \\ \text{to} \end{smallmatrix} 6 \right)$ should sink the

IN-

INSTRUMENT the nearest to the *Crown* before-mentioned, that Weight shews you that the Liquor you are trying is one to six over PROOF, and will allow a Gallon of Water, to be mixed with every six Gallons thereof, to lower it down to PROOF; and so by all the other Weights: Observe, that if it sinks somewhat deeper than the *Crown* Engraved on the *Spindle*, it is rather Stronger; or if it floats Higher than the *Crown*, it is rather Smaller than what the Weight Specifies.

All the Weights in which the O, is Engraved over the Figures, are for trying Liquors that are over PROOF; and all the Weights on which the U, is Engraved under the Figures, are for trying Liquors that are under PROOF; as in the Plate before-mentioned.

And as several Methods have been made use of to make BRANDY, RUM, MALT, and MELASSES-SPIRITS, appear a full Merchantable PROOF, that are not really

really so; not only in *British* Goods, but likewise in *Foreign*; an Instance of which, (with this INSTRUMENT) he made it appear very lately in a Pipe, or Piece of *French* BRANDY, as Landed at the Custom-House; which by the Bead or Bubble, shewed as full a Merchantable PROOF, as could be desired; but upon Tryal found it was one in Ten under PROOF, that is, one Gallon of Water to nine Gallons of *Proof-Brandy*; by which Fraud the Buyer thereof sustained near Five Pounds Loss, which with this INSTRUMENT, he might have prevented.

The Price of the INSTRUMENT, with this APPARATUS being added thereunto, is *One Guinea*.

In trying the Strength of ARRACK, please to observe the following Rules.

ALMOST fill the Tin-Case with the ARRACK you design to try, then screw on the INSTRUMENT the Weight,

Weight, on which is Engraved *Midling* as in the Plate before-mentioned ; then wipe the INSTRUMENT as before Directed, and sink it to the Bottom of the Tin-Case ; and if the INSTRUMENT doth rise, or float so high as that the *Crown* Engraved on each Side the *Spindle* or *Index*, appear near the Surface of the Liquor, then the said ARRACK is of a midling Strength ; but if it should not rise, but remain sunk, then the said Liquor is Stronger than Midling ; in which Case, you must Screw on the Weight, on which is Engraved *Strong* ; and if the *Crown* Engraved on the *Index* appears near the Surface of the Liquor, with that Weight screwed on, that Liquor is Strong ; but in Case the INSTRUMENT should not rise, but continue sunk or immersed in the Liquor, that Liquor is Stronger than Strong. You must then Screw on the Weight, on which is Engraved *very Strong* ; and if it floats to the *Crown* before-mentioned on the *Index*, with that Weight screwed on the INSTRUMENT, the Liquor is very Strong, which is seldom met with ; but if
the

the INSTRUMENT should not rise or float so high, as that the *Crown* should appear near the Surface of the Liquor, or remain sunk at the Bottom of the Tin-Case, that Liquor is Stronger than any I could ever procure; but in Case when the INSTRUMENT with the Weight screwed thereon, on which is Engraved *Midling*, should rise or float Higher in the Liquor than the *Crown* Engraved on the *Spindle* before-mentioned, then the Liquor is Smaller than *Midling*; and if it should float so High, that Part of the BALL should appear above the Surface, you must then Screw on the Weight, on which is Engraved *Small*; and if that Weight should sink it near to the *Crown* Engraved on the *Spindle*, it is Small ARRACK; but if that Weight should not sink the Whole Body of the BALL, below the Surface of the Liquor, you must then Screw on the Weight on which is Engraved *very Small*; and if that Weight should sink the INSTRUMENT near to the *Crown*, Engraved on the *Spindle*, it is very Small ARRACK; but if that Weight should not sink

sink the INSTRUMENT, near to the *Crown* on the *Spindle*, or any Part of the BALL appear, it is then of very little Value, by Reason so large a Quantity of WATER had been mixed therewith.

Observe in trying of ARRACK, that whatever Weight is screwed on, if it sinks Deeper in the Liquor, than the *Crown* Engraved on the *Spindle*, it is Stronger than that Weight Specifies; but if the *Crown* floats Higher than the Surface of the Liquor, then it is Smaller than the Weight Specifies; as for Example, if the Weight on which is Engraved *Midling*, was screwed on the INSTRUMENT, and it should sink the INSTRUMENT in the Liquor, so deep as the Figures, 6, 7, 8, 9, 10, Engraved on the *Index* above the *Crown*, then that Liquor is Strong *Midling*; but if it should float so High as to the Figures, 6, 7, 8, 9, 10, Engraved under the *Crown*, then that said Liquor is Small *Midling*, and the same Rule must be observed in using all the other Weights; but if it floats within the Figures marked,

I,

1, 2, 3, 4, 5, either above or under the *Crown*, Engraved on the *Spindle*, it may be deemed of the Strength, specified on the Weight that sinks it.

In Buying this Liquor in *India*, Screw on the Weight on which is Engraved (*very Strong*) and if the INSTRUMENT with that Weight screwed thereon, should sink so deep, as that not only the COPPER-BALL, but even the whole *Spindle* should be sunk in the Liquor you are trying, that Liquor may be deemed of a proper Strength to be sent to *Europe*; but if the INSTRUMENT should require the Weight, on which is Engraved (*Midling*) or the Weight on which is Engraved (*Small*) to sink it in the Liquor you are trying, that Liquor notwithstanding it may appear of sufficient Strength whilst in *India* (by Reason of the Heat of the Climate, and the Newness thereof) when brought to *Europe* will be so small, as scarce worth Importing.

In trying Spirits of Wine, Screw on the Weight, on which is Engraved round the
Bottom

Bottom thereof (*Spirits of Wine*) as in the Plate before-mentioned; and if the INSTRUMENT when immersed in those Spirits, should float near the *Crown*, Engraved on each Side of the *Spindle*, that Liquor is of a sufficient Strength; but if Part of the BALL should appear, although no broader than a Silver Penny, above the Surface of the Liquor, those Spirits are not a sufficient Strength for the Use required.

This will be of great Use to the Makers of all Sorts of Varnish; the Spirits of Wine that are commonly sold, being so small, as will scarce dissolve the Gums, made use of in making the same.

Observe, if the INSTRUMENT doth not sink in the Liquor so low as the *Crown*, or if to be procured, (to be wholly immersed in the Spirits) it will not be fit for the Uses last mentioned.

I do not propose with this INSTRUMENT, to discover the true Strength of
D compound

compound Liquors, as Clove, Cinnamon, Anniseed, &c. there being so many different Specifick Gravities, in the Ingredients made use of in making the same; but only Brandy, Rum, Malt, or Melafes-Spirits, which (if neat) this INSTRUMENT will discover the true Strength or Proof thereof, to Exactness: And if any Methods have been made use of, or any Compound mixed therewith, in order to deceive the Buyer, by a false Bead or Bubble, this INSTRUMENT will infallibly discover the same, notwithstanding the greatest Art made use of to conceal it.

All Spirituous Liquors and others, should be tried when the Air is Temperate; in Summer, try them as early as you can in the Morning; in the Winter, any Time of the Day. Extream Heat or Cold making all Spirituous Liquors shew by the INSTRUMENT, a small Matter stronger or weaker, than it's real Strength, but not to compare to the great Variation of the Bead or Bubble, in the Proof-Vial, caused by Cold or Heat.

When

When you have tried your Liquor, wipe the INSTRUMENT with Care, as before directed, and wipe the Tin-Case, both Inside and Outside, to preserve it from Rust; then wrap a Piece of Paper (not too stiff or hard) about the INSTRUMENT, before you put it into the Tin-Case, to keep it from rattling against the Sides thereof, when carried in the Pocket; likewise observe not to force it down by the *Spindle*, by Reason you may either bend or break the same by so doing; and observe, that the INSTRUMENT must be put lower in the Case than the Top thereof, otherwise by putting on the Cover, the *Spindle* may be damaged.

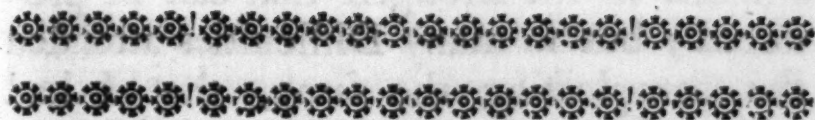
Always hold the INSTRUMENT by the COPPER-BALL, when you Screw on the Brass Weights, by Reason if you hold it by the *Spindle*, it may damage the same.

N. B. Those Gentlemen, &c. who have already bought the first-mentioned

INSTRUMENT, for trying whether BRANDY, RUM, &c. were Proof, or otherwise; and shewing the proper Strength RUM ought to be of in the *West-Indies*, in order to its being a full Merchantable Proof when brought to *Europe*, and the Goodness of Water; may have the APPARATUS of Twenty three Brass Weights, or that for discovering the Strength of ARRACK added thereunto, on paying the additional Price before-mentioned.



OBSER-



OBSERVATIONS

CONCERNING

The Strength of WORTS, the
Heat of LIQUOR, the Quality
and Goodness of MALT.

IT is now upwards of Twelve Years,
since I first endeavoured to bring to
Perfection, an INSTRUMENT for dis-
covering all the different Degrees of Heat
in Liquors, from cold Water to boiling,
by which any Person in Brewing, might
be certain in taking his Liquor, to the
exact Degree of Heat required; likewise,
for discovering the various Degrees of
Strength of all Worts, either in the Un-
der Back, or when Boiling, from the

D 3 smallest

smallest to the strongest that can be produced ; but so many Difficulties attended the compleating the same, that I had laid it aside as impracticable ; until about twelve Months past, I attempted it again, and have now brought it to that Perfection, as not only to answer the Uses above-mentioned, but likewise to discover the different Goodness or Quality of MALT, with so small a Quantity as one Pint of each of the several Sorts you are desirous of trying :

To perform which, please to observe the following Directions :

If you are desirous of knowing the Warmth or Heat of any Liquor, first screw on the Weight, on which is Engraved as in Plate the Second,

($\begin{smallmatrix} \text{LI.} & \text{WA.} \\ \text{I} & \text{DE.} \end{smallmatrix}$) which LI. signifies Li-

quor Warm I DE. first Degree, or one Degree warmer than cold Liquor,
and

and if that Weight should sink the INSTRUMENT lo low as the *Crown* Engraved on each Side the *Index* or *Spindle*, the INSTRUMENT discovers that Liquor to be Warm, the first Degree; but if that Weight sinks the INSTRUMENT much lower than the *Crown* above-mentioned, you must Screw on the Weight on which is Engraved as in the Plate before-

(LI. WA.)
2 DE.) mentioned; and if that

Weight should cause the INSTRUMENT to float near to the *Crown*, Engraved on the *Spindle* thereof, that Weight discovers the Liquor to be Warm, the second Degree; but if that Weight should sink the INSTRUMENT much lower than the *Crown* before-mentioned, you must Screw on the Weight, on which is Engraved

(LI. WA.)
3 DE.) and if that Weight should

cause the INSTRUMENT to float near
to

to the *Crown* before-mentioned, it shews that Liquor is of the third Degree of Heat ; but if that Weight should sink the INSTRUMENT much deeper than the *Crown*, you must Screw on the several Weights Engraved as under-mentioned.

(LI. WA.) (LI. WA.)
4 DE. 5 DE.)

(LI. WA.) (LI. WA.)
6 DE. 7 DE.)

(LI. WA.) (LI. WA.)
8 DE. 9 DE.)

(LI. WA.) And that Weight that
10 DE.

causes the INSTRUMENT to float nearest to the *Crown*, Engraved on each Side of the *Spindle* aforesaid, discovers the Warmth or Heat of the Liquor you are trying: As for Example ; if the Weight on

which is Engraved (LI. WA.) should
8 DE.

cause the INSTRUMENT to float near to
the

the *Crown*, Engraved on each Side of the *Spindle* thereof, that Weight discovers the Liquor is warm, the eighth Degree; but in Case the INSTRUMENT, with the Weight screwed thereon, on which is Engraved

(LI. WA.
10 DE.) should sink in the Li-

quor you are trying, you must Screw on the Weight, on which is Engraved

(BOILING
LIQUOR;) and if the INSTRUMENT

with that Weight screwed thereon, should sink so deep as the *Crown* Engraved on the *Spindle*, that Liquor is of a Boiling Heat.

But if you are desirous of having your Liquor made warm or hot, to any certain Degree of Heat, (as for Example to the 7th Degree) you must Screw on the INSTRUMENT, the Weight on which is Engraved

Engraved $\left(\begin{array}{cc} \text{LI.} & \text{WA.} \\ 7 & \text{DE.} \end{array} \right)$ and when the

Liquor is of the Degree of Heat required, the INSTRUMENT, with that Weight screwed thereon, will float to the *Crown* Engraved on each Side of the *Spindle*.

Observe, that if the INSTRUMENT sinks in the Liquor you are trying deeper than the *Crown*, that Liquor is rather warmer than the Weight specifies; but if it floats higher, it is not so warm as the Weight denotes.

Never make use of this INSTRUMENT either in the Copper or Boiler, by Reason, whilst the Fire is under the Liquor, the Air that is in the Water, is continually ascending, which causes the INSTRUMENT to vibrate, and float up and down, so as not to shew the Degrees of Heat, to any Certainty.

The most certain, or best Way of discovering the Heat of Liquor, is, by taking a Pigeon, Can, or any other Vessel,

fel, that contains a Quart or upwards; it should be so deep, as that the Top of the INSTRUMENT, may be wholly immersed or covered therein; and after having kept the said Vessel near the space of one Minute, in the Liquor you are desirous of trying, in order to warm the same; take it out of the Copper almost fill'd with the said Liquor, and take Care not to set it on a Stone, or any other Thing that may cool or chill the same: Then sink or immerge the INSTRUMENT therein, shifting the Weights as before directed.

Vessels made of Wood are most proper for Experiments of this Nature, by Reason the Air will not chill or cool any Liquors contained therein, so soon as it will in Vessels made either of Earth or Metal.

This INSTRUMENT is not designed for trying the Degrees of Heat in Worts, or any other Compound, or mix'd Liquors; but only common Water, (by
Brewers,

Brewers, Distillers, &c. called Liquor,) and is proper for Brewing, Dressing of Food, &c.

If you are desirous of knowing the Strength of Worts, either in the Under-Back or when Boiling; please to observe the following Directions.

If your Worts are not perfectly cool, you must in that Case, take a Glass Quart Bottle, put therein near a Pint of the Worts you are desirous of trying: Then sink it in a Pail of Pump Water, (observing to cork it very tight, that no Liquor enters therein,) and by shifting the Water two or three Times, or by letting it stand a small Time covered therein, the Warmth thereof will be so abated, as to cause it to be of a temperate Degree of Heat. Which being done, fill the Tin-Case, or any other Vessel, that you have a Mind to try the Experiment in, that is so deep as that the Top of the *Spindle*, may be quite covered or immersed therein; then Screw on the
the

the INSTRUMENT, the Weight on

which is Engraved $\left(\begin{array}{cc} \text{WO.} & \text{ST.} \\ \text{1} & \text{DE.} \end{array} \right)$ as in

Plate the Second : Which said WO. denotes Worts, ST. Strong, 1 DE. first Degree. And if the INSTRUMENT with that Weight screwed thereon, should sink so low as the *Crown* Engraved on each Side of the *Spindle*, it shews the Worts are of the first Degree of Strength ; but if that Weight should not sink it down to the *Crown* before-mentioned, or the COPPER-BALL should appear, you must Screw on the Weight on which is Engraved as in Plate the Second ;

$\left(\begin{array}{cc} \text{WO.} & \text{ST.} \\ \text{2} & \text{DE.} \end{array} \right)$ and if that Weight sinks

the INSTRUMENT so low as the *Crown* on the *Spindle* aforesaid, it shews those Worts are of the second Degree of Strength ; but if that Weight should not sink the INSTRUMENT, you must

E

Screw

Screw on the several Weights, Engraved as in the aforesaid Plate, viz.

(WO. ST.)	(WO. ST.)
3 DE.)	4 DE.)
(WO. ST.)	(WO. ST.)
5 DE.)	6 DE.)
(WO. ST.)	(WO. ST.)
7 DE.)	8 DE.)
(WO. ST.)	(WO. ST.)
9 DE.)	10 DE.)

And the Weight that sinks the INSTRUMENT the nearest to the *Crown* Engraved on each Side of the *Spindle* aforesaid, shews the Strength of those Worts you are trying; (as for Example) if the Weight on which is En-

graved (WO. ST.)
9 DE.) should sink the

INSTRUMENT the nearest to the *Crown*
Engraved

Engraved on the *Spindle* aforesaid, it shews those Worts are of the ninth Degree of Strength; the same Rule may be observed by all the other Weights.

But in case none of those Weights Engraved as before-mentioned, should sink the INSTRUMENT to the *Crown*, in the Worts you are trying, you must in that Case, Screw on the Weight, on which is Engraved (*Ext. Strong*,) and if the INSTRUMENT should float near to the *Crown*, Engraved on the aforesaid *Spindle*, with that Weight screwed thereon, those Worts are Extraordinary Strong; but if it should float so High, as that the COPPER-BALL should appear, those Worts are Stronger than any I could ever yet meet with, that had been Brewed for Sale.

If you are desirous of knowing the Increase of Strength your Worts gain by Boiling, you must save as much of the Worts out of the Under-Back, as will fill the Tin-Case; and, having cooled it to a temperate Degree of Heat, (as before

directed) try the Strength thereof with the INSTRUMENT, which Experiment you may repeat as often as shall be desired (so long as the Worts continue Boiling) by which you may exactly discover the gradual Increase of Strength and specifick Gravity it gains by the Boiling thereof.

When you have been using the INSTRUMENT and Case with Worts, you must wash them both with warm Water, by Reason, that they may be the better cleansed from those Glutinous Particles contained therein.

After having brought to Perfection, the INSTRUMENT for discovering the Strength of Worts and Heat of Liquor, as before-mentioned; and had shewn it to several eminent Brewers, &c. and had their Approbation of the same: He was desired by several of the above-mentioned Gentlemen, to contrive if possible some Method for discovering, (by a Sample, or the Quantity of one Pint,) the

the different Goodness or Quality of all the various Sorts of MALT, that should be produced.

Which after many Experiments, he brought to Perfection, in the Manner following: He made a *Paralelipepidon*, whose Base was three Inches, and whose Height was three Inches and three Quarters bare, as may be seen Figure the First, Plate the Second; containing 33 $\frac{3}{4}$ Cubick Inches, which is one Pint, or a sixty fourth Part of a Bushel, Corn Measure.

He also made one other *Paralelipepidon* for measuring Liquor, whose Base was four Inches, and the Height three Inches, and one Quarter, with a flat Plate, soldered on the Top thereof, at one Corner of which, there was a Square Neck, one Inch Diameter, and seven eighths of an Inch in Depth, as may be seen Figure the Second, Plate the Second; which said Vessel contains fifty-two Cubick Inches, and seven eighths of an

E 3 Inch,

Inch, which is one Pint and a Half, Beer or Winchester Measure.

N. B. The Reason of reducing the Area of this Measure to one Inch, is, that he might Measure his Liquor to the greater Exactness.

He likewise caused a round Vessel to be made, whose Inside was six Inches Diameter, and whose Depth was about five Inches within, as may be seen Figure the third, Plate the Second, containing near half a Gallon Winchester Measure, (but in this Vessel we are no ways confined to so great an Exactness as in the two First) it serving only as a Mash Tun to try Experiments in; the Staves and Bottom must be three Quarters of an Inch thick, in order to prevent the Cold from having any Effect on so small a Quantity of Liquor as is contained therein.

The two *Paralelipedons* and Mash Tun, the Draughts of which are in Plate the

the Second, at the End of the Book, and marked 1, 2, 3, are drawn by a Scale of two Inches to a Foot, by which Draught any Gentlemen that are curious, may have those Measures made; but as making Vessels by Cubick Inches, are very expensive in the Workmanship thereof, and being desirous to make the Expence attending those Experiments as easy as possible, to such Gentlemen as are desirous of trying the same: He caused a round Measure to be made of double Tin, and edged with a strong Brass Rim, containing $33 \frac{1}{2}$ Cubick Inches, the exact Contents of the Brass *Paralelipedon* Pint, Corn Measure, marked F. 1. Plate the Second; likewise one other round Measure with a Brass Rim as before-mentioned, containing $52 \frac{1}{8}$ Cubick Inches, the exact Contents of the Brass *Paralelipedon*, marked F. 2. Plate the Second, containing one Pint and a Half Winchester Measure. These two Vessels so compleated, with a proper Mash Tun and Cover, to hold near Half a Gallon Winchester Measure, marked F. 3. Plate the

the Second; may be had of Mrs. Rose, a Tin Shop in *Fleet-Lane*, near the *Old-Bailey*, at five Shillings the Sett.

Having furnished himself with these Materials, he made the following Experiments.

EXPERIMENT *the* FIRST.

He filled the *Paralelipidon* or Pint Measure, (Marked Figure the First, Plate the Second) with un-ground Malt, without either shaking or pressing the same; and having struck the Top of the same with a Rule, he then weighed the same to great Exactness, which said Weight of the Malt, and Quality thereof, may be seen in a Table at the End of the Book.

N. B. Observe that your Malt is always ground to one Size, and that the Mill be cleansed from any Remains of Malt left therein, by any former grinding; nor that any of the Malt you are then grinding is left in the Mill, by Reason,

son, that if there was either Increase or Decrease of the Quantity, there could be no Certainty in the Experiments you are trying.

He then filled a Pot or Kettle, with Water, large enough to contain the Wooden Vessel or Mash Tun, and the other Vessel for Measuring the Liquor containing one Pint and a Half, Winchester Measure; then heating the Water (the Mash Tun and other Vessel being kept therein) until it came to the 8th Degree of Heat by the INSTRUMENT; he then took out the Mash Tun, and drained the same over the Kettle one Minute, he then put the Malt therein, and having taken out the other Vessel, full of the warm Liquor, he poured it on the Malt in the Mash Tun with Dispatch, and having mixed them well together, he stopp'd them close down with a Cover, and covered the wooded Vessel with Cloths, to hinder the Air from having any Effect in cooling the same.

He

He let the Liquor stand on the Malt as before-mentioned one Hour ; at the Expiration of which he opened the same, and poured it into a Sieve, and let it drain five Minutes, (having put the Mash Tub into the hot Liquor as soon as he had first emptied the same, in order to its being kept to the same Degree of Heat as it first was.) Then taking out the Tub aforesaid, and having put the Mash therein, he poured thereon the Measure before-mentioned, marked Figure the Second, full of hot Liquor, (the 8th Degree of Heat,) and having stirred or mixed the same together, he covered it up close, and let it stand one Hour ; then opening the same, he poured it into a Sieve, letting it drain five Minutes as before ; he proceeded in the same Manner a third and fourth Time, keeping the Worts separate.

Having cooled the four several Worts to a temperate Degree of Heat, he tried the Strength of the same with the HYDROMETER, and found his first Worts were of the tenth Degree of Strength ;
in

in the same Manner he tried the second Worts, and found they were almost the fourth Degree of Strength, the INSTRUMENT sinking to the Figure 5 above the *Crown* Engraved on the *Spindle* thereof: He likewise tried the third Worts, and found they were of the Second Degree of Strength; and the fourth or last Worts were of the First Degree of Strength; all which Observations, are set down in the Table at the End of the Book, in the Line EXPERIMENT the FIRST.

In the same Manner as before-mentioned, he made Experiments on nine other different Sorts of Malt, observing the Quality and Weight of each Sort, and the various Strength of the several Worts each of them produced; all which Experiments, are printed in a Table at the End of this Book.

He also made two other Experiments, by wetting twenty-seven Quarters of Malt each; one of which weighed 265 Pounds, *per* Quarter; the other weighed 318 Pounds and a Half; the Quantity of
Liquor

Liquor, and Heat thereof were both the same ; and upon tryal of the several Worts when Cold, found that the lightest Malt had produced as good Worts, as to the real Strength and specifick Gravity thereof, as the heaviest, by which it appears, that the Weight of the Malt is no certain Rule to discover the Goodness thereof.

In trying of Worts, if the INSTRUMENT sinks deeper than the *Crown* Engraved on each Side the *Spindle*, that Liquor is smaller than the Weight denotes ; but if it floats higher than the *Crown* it is stronger.

With this INSTRUMENT you may (by making several Experiments with Liquor of different Degrees of Heat) discover what Degree of Heat will produce the strongest Worts, or best agree with the Malt you are then trying.

N. B. *These Instruments are not made for trying the Strength of Beer, that has been fermented by Yeast, but for trying of Worts only, either from the Under-Back, or when Boiling.*

F I N I S.



WATER PROOF
 WATER PROOF
 1
 17916
 17916
 17916

WATER PROOF WEIGHTS		WATER PROOF WEIGHTS	
1 lb	1 lb	1 lb	1 lb
1/2 lb	1/2 lb	1/2 lb	1/2 lb
1/4 lb	1/4 lb	1/4 lb	1/4 lb
1/8 lb	1/8 lb	1/8 lb	1/8 lb
1/16 lb	1/16 lb	1/16 lb	1/16 lb
1/32 lb	1/32 lb	1/32 lb	1/32 lb
1/64 lb	1/64 lb	1/64 lb	1/64 lb
1/128 lb	1/128 lb	1/128 lb	1/128 lb
1/256 lb	1/256 lb	1/256 lb	1/256 lb
1/512 lb	1/512 lb	1/512 lb	1/512 lb
1/1024 lb	1/1024 lb	1/1024 lb	1/1024 lb
1/2048 lb	1/2048 lb	1/2048 lb	1/2048 lb
1/4096 lb	1/4096 lb	1/4096 lb	1/4096 lb
1/8192 lb	1/8192 lb	1/8192 lb	1/8192 lb
1/16384 lb	1/16384 lb	1/16384 lb	1/16384 lb
1/32768 lb	1/32768 lb	1/32768 lb	1/32768 lb
1/65536 lb	1/65536 lb	1/65536 lb	1/65536 lb
1/131072 lb	1/131072 lb	1/131072 lb	1/131072 lb
1/262144 lb	1/262144 lb	1/262144 lb	1/262144 lb
1/524288 lb	1/524288 lb	1/524288 lb	1/524288 lb
1/1048576 lb	1/1048576 lb	1/1048576 lb	1/1048576 lb
1/2097152 lb	1/2097152 lb	1/2097152 lb	1/2097152 lb
1/4194304 lb	1/4194304 lb	1/4194304 lb	1/4194304 lb
1/8388608 lb	1/8388608 lb	1/8388608 lb	1/8388608 lb
1/16777216 lb	1/16777216 lb	1/16777216 lb	1/16777216 lb
1/33554432 lb	1/33554432 lb	1/33554432 lb	1/33554432 lb
1/67108864 lb	1/67108864 lb	1/67108864 lb	1/67108864 lb
1/134217728 lb	1/134217728 lb	1/134217728 lb	1/134217728 lb
1/268435456 lb	1/268435456 lb	1/268435456 lb	1/268435456 lb
1/536870912 lb	1/536870912 lb	1/536870912 lb	1/536870912 lb
1/1073741824 lb	1/1073741824 lb	1/1073741824 lb	1/1073741824 lb
1/2147483648 lb	1/2147483648 lb	1/2147483648 lb	1/2147483648 lb
1/4294967296 lb	1/4294967296 lb	1/4294967296 lb	1/4294967296 lb
1/8589934592 lb	1/8589934592 lb	1/8589934592 lb	1/8589934592 lb
1/17179869184 lb	1/17179869184 lb	1/17179869184 lb	1/17179869184 lb
1/34359738368 lb	1/34359738368 lb	1/34359738368 lb	1/34359738368 lb
1/68719476736 lb	1/68719476736 lb	1/68719476736 lb	1/68719476736 lb
1/137438953472 lb	1/137438953472 lb	1/137438953472 lb	1/137438953472 lb
1/274877906944 lb	1/274877906944 lb	1/274877906944 lb	1/274877906944 lb
1/549755813888 lb	1/549755813888 lb	1/549755813888 lb	1/549755813888 lb
1/1099511627776 lb	1/1099511627776 lb	1/1099511627776 lb	1/1099511627776 lb
1/2199023255552 lb	1/2199023255552 lb	1/2199023255552 lb	1/2199023255552 lb
1/4398046511104 lb	1/4398046511104 lb	1/4398046511104 lb	1/4398046511104 lb
1/8796093022208 lb	1/8796093022208 lb	1/8796093022208 lb	1/8796093022208 lb
1/17592186044416 lb	1/17592186044416 lb	1/17592186044416 lb	1/17592186044416 lb
1/35184372088832 lb	1/35184372088832 lb	1/35184372088832 lb	1/35184372088832 lb
1/70368744177664 lb	1/70368744177664 lb	1/70368744177664 lb	1/70368744177664 lb
1/140737488355328 lb	1/140737488355328 lb	1/140737488355328 lb	1/140737488355328 lb
1/281474976710656 lb	1/281474976710656 lb	1/281474976710656 lb	1/281474976710656 lb
1/562949953421312 lb	1/562949953421312 lb	1/562949953421312 lb	1/562949953421312 lb
1/1125899906842624 lb	1/1125899906842624 lb	1/1125899906842624 lb	1/1125899906842624 lb
1/2251799813685248 lb	1/2251799813685248 lb	1/2251799813685248 lb	1/2251799813685248 lb
1/4503599627370496 lb	1/4503599627370496 lb	1/4503599627370496 lb	1/4503599627370496 lb
1/9007199254740992 lb	1/9007199254740992 lb	1/9007199254740992 lb	1/9007199254740992 lb
1/18014398509481984 lb	1/18014398509481984 lb	1/18014398509481984 lb	1/18014398509481984 lb
1/36028797018963968 lb	1/36028797018963968 lb	1/36028797018963968 lb	1/36028797018963968 lb
1/72057594037927936 lb	1/72057594037927936 lb	1/72057594037927936 lb	1/72057594037927936 lb
1/144115188075855872 lb	1/144115188075855872 lb	1/144115188075855872 lb	1/144115188075855872 lb
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1/576460752303423488 lb	1/576460752303423488 lb	1/576460752303423488 lb	1/576460752303423488 lb
1/1152921504606846976 lb	1/1152921504606846976 lb	1/1152921504606846976 lb	1/1152921504606846976 lb
1/2305843009213693952 lb	1/2305843009213693952 lb	1/2305843009213693952 lb	1/2305843009213693952 lb
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1/9223372036854775808 lb	1/9223372036854775808 lb	1/9223372036854775808 lb	1/9223372036854775808 lb
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1/73786976294838206464 lb	1/73786976294838206464 lb	1/73786976294838206464 lb	1/73786976294838206464 lb
1/147573952589676412928 lb	1/147573952589676412928 lb	1/147573952589676412928 lb	1/147573952589676412928 lb
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1/77371252455336267181195264 lb	1/77371252455336267181195264 lb	1/77371252455336267181195264 lb	1/77371252455336267181195264 lb
1/154742504910672534362390528 lb	1/154742504910672534362390528 lb	1/154742504910672534362390528 lb	1/154742504910672534362390528 lb
1/309485009821345068724781056 lb	1/309485009821345068724781056 lb	1/309485009821345068724781056 lb	1/309485009821345068724781056 lb
1/618970019642690137449562112 lb	1/618970019642690137449562112 lb	1/618970019642690137449562112 lb	1/618970019642690137449562112 lb
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1/2475880078570760549798248448 lb	1/2475880078570760549798248448 lb	1/2475880078570760549798248448 lb	1/2475880078570760549798248448 lb
1/4951760157141521099596496896 lb	1/4951760157141521099596496896 lb	1/4951760157141521099596496896 lb	1/4951760157141521099596496896 lb
1/9903520314283042199192993792 lb	1/9903520314283042199192993792 lb	1/9903520314283042199192993792 lb	1/9903520314283042199192993792 lb
1/19807040628566084398385987584 lb	1/19807040628566084398385987584 lb	1/19807040628566084398385987584 lb	1/19807040628566084398385987584 lb
1/39614081257132168796771975168 lb	1/39614081257132168796771975168 lb	1/39614081257132168796771975168 lb	1/39614081257132168796771975168 lb
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1/316912650057057350374175801344 lb	1/316912650057057350374175801344 lb	1/316912650057057350374175801344 lb	1/316912650057057350374175801344 lb
1/633825300114114700748351602688 lb	1/633825300114114700748351602688 lb	1/633825300114114700748351602688 lb	1/633825300114114700748351602688 lb
1/1267650600228229401496703205376 lb	1/1267650600228229401496703205376 lb	1/1267650600228229401496703205376 lb	1/1267650600228229401496703205376 lb
1/2535301200456458802993406410752 lb	1/2535301200456458802993406410752 lb	1/2535301200456458802993406410752 lb	1/2535301200456458802993406410752 lb
1/5070602400912917605986812821504 lb	1/5070602400912917605986812821504 lb	1/5070602400912917605986812821504 lb	1/5070602400912917605986812821504 lb
1/10141204801825835211973625643008 lb	1/10141204801825835211973625643008 lb	1/10141204801825835211973625643008 lb	1/10141204801825835211973625643008 lb
1/20282409603651670423947251286016 lb	1/20282409603651670423947251286016 lb	1/20282409603651670423947251286016 lb	1/20282409603651670423947251286016 lb
1/40564819207303340847894502572032 lb	1/40564819207303340847894502572032 lb	1/40564819207303340847894502572032 lb	1/40564819207303340847894502572032 lb
1/81129638414606681695789005144064 lb	1/81129638414606681695789005144064 lb	1/81129638414606681695789005144064 lb	1/81129638414606681695789005144064 lb
1/162259276829213363391578010288128 lb	1/162259276829213363391578010288128 lb	1/162259276829213363391578010288128 lb	1/162259276829213363391578010288128 lb
1/324518553658426726783156020576256 lb	1/324518553658426726783156020576256 lb	1/324518553658426726783156020576256 lb	1/324518553658426726783156020576256 lb
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1/1298074214633706907132624082305024 lb	1/1298074214633706907132624082305024 lb	1/1298074214633706907132624082305024 lb	1/1298074214633706907132624082305024 lb
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1/5192296858534827628530496329220096 lb	1/5192296858534827628530496329220096 lb	1/5192296858534827628530496329220096 lb	1/5192296858534827628530496329220096 lb
1/10384593717069655257060992658440192 lb	1/1038459371706965525		

WATER	PROOF	Plate 1	PR OOF	SPIN WINE S
UNDER PROOF WEIGHTS		SIDE OF THE SPINDLE FOR WATER		OVER PROOF WEIGHTS
in 1" 20 U	in 1" 15 U	BRANDY, RUM, &c		0 1" 20 to
in 1" 10 U	in 1" 9 U			0 1" 15 to
in 1" 8 U	in 1" 7 U			0 1" 10 to
in 1" 6 U	in 1" 5 U			0 1" 9 to
in 1" 4 U	in 1" 3 U			0 1" 8 to
in 1" 2 U				0 1" 7 to
ARRACK WEIGHTS		THE THREE SIDES OF THE LOWER SPINDLE		0 1" 6 to
VERY STRONG	STRONG	CLARKE	LONDON	0 1" 5 to
MIDLING	VERY SMALL	210	PROPER TO BE EU	0 1" 4 to
SMALL		STRENGTH SENT TO ROPE		0 1" 3 to

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April 29th 1746

WEIGHTS for H E A T of LIQUORS.		PLATE 2.	WEIGHTS for S T R E N G T H of WORTS.	
WATER.	LI. WA. 1. DE.	10	WO. ST. 1. DE.	WO. ST. 2. DE.
LI. WA. 2. DE.	LI. WA. 3. DE.	9	WO. ST. 3. DE.	WO. ST. 4. DE.
LI. WA. 4. DE.	LI. WA. 5. DE.	8	WO. ST. 5. DE.	WO. ST. 6. DE.
LI. WA. 6. DE.	LI. WA. 7. DE.	7	WO. ST. 7. DE.	WO. ST. 8. DE.
LI. WA. 8. DE.	LI. WA. 9. DE.	6	WO. ST. 9. DE.	WO. ST. 10. DE.
LI. WA. 10. DE.	BOILING LIQOR.	5	WO. ST. 11. DE.	EXT. STRONG.
		4		
		3		
		2		
		1		
		10		



Publish'd according to Act of Parl.^{ts} Apr^l 29. 1746

Weight of $\bar{y}$ Malt.				PLA
Exp	Sorts of Malt.	P. Pint. Oz. Dr.	P. Bushel tt. Oz.	P. Sack tt. Oz.
1 ^a	Pale	9 : 12	39 : -	156
2 ^a	Pale	10 : 1	40 : 4	161
3 ^a	Pale	9 : 6	37 : 8	150
4 ^a	Pale	9 : 11	38 : 12	155
5 ^a	Pale	10 : 5	41 : 4	165
6 ^a	Brown	8 : 8	34 : -	136
7 ^a	Brown	8 : 9	34 : 4	137
8 ^a	Brown	8 15	35 12	143
9 ^a	Brown	9 : -	36 : -	144
10 ^a	Brown	9 : 1	36 : 4	145
Publish'd according to Act				

TE 3. *Strength of the Several Worts.*

^r 1. Wo ^T .	^d 2. Wo ^T .	^d 3. Wo ^T .	^h 4. Wo ^T .
10, DE.	Bare 4. DE.	2, DE.	1, DE.
7, DE.	Between 2, & 3.	Strong 1, DE.	Between 1, & Li.
8, DE.	Bare 3, DE.	Between 1 & 2	Between 1, & Li.
7, DE.	Bare 3, DE.	Very Strong 1, DE.	Between 1 & Li.
6, DE.	Very Bare 3, DE.	Very Strong 1, DE.	Between 1, & Li.
Bare 8 DE	Strong 3, DE.	Bare 2, DE.	Bare 1, DE.
Very Bare 6, DE.	Between 2, & 3.	Strong 1, DE.	Very Small
6, DE.	Bare 3, DE.	Very Bare 2, DE.	Between 1, & Li.
7, DE.	Bare 3, DE.	Bare 2, DE.	Between 1, & Li.
5, DE	Between 2 & 3	Between 1, & 2.	Very Small

of Parliament April 29. 1746.

